

**TASK NO. 5-3-70043: BREACH OBSTACLES****CONDITIONS**

The engineer platoon is supporting a maneuver force conducting hasty breaching operations. The unit is directed to breach an obstacle other than a minefield. The maneuver-force commander designates support, breach, and assault forces. The platoon creates and marks lanes through the obstacles to maintain the momentum of the tactical operation. Some iterations should be performed in MOPP 4.

**STANDARDS**

The platoon will create and mark lanes through the obstacles to maintain the momentum of the tactical operation. The platoon will create the lanes within 10 minutes if the obstacle is covered by direct fire and/or observed indirect enemy fire. The time required to perform this task will be increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** The platoon leader determines the obstacle's type, location, and dimensions from information provided by the maneuver force or an obstacle reconnaissance.

- a. Determines the obstacle (log, wire, nuclear-weapons effect, antiairborne, water/beach, rubble, snow/ice, ditch, or crater).
- b. Determines the obstacle's location and dimensions (as a minimum, the depth and frontage).
- c. Performs a detailed reconnaissance of the obstacle and surrounding terrain (time permitting) when the maneuver force does not provide sufficient details.

**Step 2.** The platoon leader, in coordination with the TF commander—

- a. Selects the means for breaching the obstacle.
  - Uses the ACE for nonexplosive obstacles and the AVLB and engineer equipment for mechanical obstacle breaching.
  - Uses the M58A3 MICLIC, bangalores (not used for minefields that have AT mines), or hand-placed charges for explosive obstacle breaching. May also use direct-/indirect-weapons fire, but this requires a high expenditure of ammunition.
  - Uses planks, assault ladders, or other available engineer tools to reduce wire obstacles, escarpments, ditches, trench lines, and fortifications for manual obstacle breaching. Manual obstacle reduction is the slowest, most hazardous, and least preferred method.
- b. Determines the lane characteristics.
  - Determines the lane width. Standard widths are 1 meter for a footpath (personnel only), 4 meters for an initial lane (to pass assault vehicles), 8 meters for one-way vehicular traffic, and 16 meters for two-way vehicular traffic.

- Determines the number of lanes required (a minimum of one lane for a maneuver company and two lanes for a TF).
- Determines the lane location based on the terrain, cover and concealment for the breaching force, time and equipment available for the breach, and the maneuver scheme.

**Step 3.** The platoon clears the obstacle of all mines and booby traps (as required).

- a. Identifies or suspects the presence of mines, trip wires, and/or booby traps.
- b. Neutralizes mines and booby traps using a line charge or hand-placed explosives before committing other engineer equipment to the obstacle-reduction task.

**Step 4.** The squad/platoon breaches the obstacle and creates the desired lanes.

- a. Creates the lanes within 10 minutes if the obstacle is covered by direct fire and/or observed indirect fire. No time standard is established if the obstacle is not covered by fire or if the squad/platoon conducts stealth breaching.
- b. The platoon leader directs the employment of the ACE (when available) for neutralizing the effects of tank ditches, road craters, log cribs, tetrahedrons, dragon teeth, and similar obstacles.
  - Starts blade work 30 meters from the depression, making a shallow incline by means of small cuts.
  - Cuts and fills until the incline is traversable by maneuver units and the ACE can cross the far bank.
- c. The platoon leader directs the employment of the AVLB, when available, to span destroyed and disabled bridges and other gaps not exceeding 22.9 meters.
- d. The platoon reduces log, steel-beam/-post, and concrete obstacles with explosives or pioneer tools (see FM 5-34).
- e. The platoon reduces wire obstacles with explosive or assault ladders.
- f. The platoon removes rubble with engineer equipment or explosives.
- g. The platoon breaches a tank ditch or other escarpments with pioneer tools (if part of a prebreach operation).

**Step 5.** The platoon marks the cleared lanes. As a minimum, marks the lane's entrance, exit, and left handrail.

- a. Marks the lanes, temporarily, (upon completion of the breach) with materials outlined in the unit SOP.
- b. Improves the marking as soon as time and availability of assets permit (if the improvement of the lane is not passed to a follow-on engineer unit). Uses the standard minefield marking set #2 or the HEMMS.
- c. Marks the right side of the lanes if not under enemy fire and time permits.

**Step 6.** The platoon leader reports the lanes' locations to higher headquarters according to the unit's SOP.

**Step 7.** The platoon provides guides or performs obstacle-handover procedures to ensure a smooth flow of traffic through the lanes.

a. Guide detachments provide follow-on forces with instructions to get them through the lanes rapidly.

b. Performs obstacle-handover procedures according to the unit's SOP. Obstacle-handover procedures enable the follow-on forces to assume the guide requirement as well as maintain and upgrade the lanes. The gaining unit assumes total responsibility for the obstacle.

### EVALUATION PREPARATION

**Setup:** The engineer platoon is supporting a maneuver force conducting hasty breaching operations. The unit is directed to breach an obstacle other than a minefield. The maneuver-force commander designates support, breach, and assault forces.

**Brief soldiers:** The platoon will create and mark lanes through the obstacles to maintain the momentum of the tactical operation. The platoon will create the lanes within 10 minutes if the obstacle is covered by direct fire and/or observed indirect enemy fire. Friendly forces will sustain no casualties from drifting out of the marked lanes.

### EVALUATION GUIDE

Score the soldiers GO if all steps are properly completed. Score the soldiers NO-GO if any step is not properly completed. If the soldiers do not properly complete any step, the trainer must show them how to correct the mistake(s). The soldiers are expected to review the task steps and performance measures and to practice the task until they perform it correctly.

### REFERENCES

Required: FM 5-34

Related: None

Supporting individual tasks:

- 01-1940.00-0020—Conduct Counterobstacle Operations
- 051-192-0006—Locate Individual Booby Traps and Mines
- 051-192-1082—Fire the MICLIC
- 051-192-1083—Secure an Undeployed MICLIC
- 051-193-0001—Detonate Explosives with Nonelectric Firing Systems
- 051-193-0002—Detonate Explosives with Electric Firing Systems
- 051-193-0003—Assemble a Detonating-Cord Ring Main with Branch Lines

- 051-193-0004—Employ the M180 Demolition Cratering Charge
- 051-193-0005—Neutralize Booby Traps and Mines with Explosives
- 051-194-0003—Execute a Complex Obstacle Breach, an Action, a Task, or a Mission

---

**TASK NO. 5-3-70103: CONDUCT AN IN-STRIDE BREACH OF A MINEFIELD****CONDITIONS**

The engineer platoon, in support of a maneuver force conducting an in-stride breach, is directed to reduce a minefield. The maneuver-force commander designates support, breach, and assault forces. The minefield has been located and reconnoitered. The mines are surface laid and/or buried. AHDs may have been used. The minefield is 120 meters deep, surface laid, and covered by direct and/or observed indirect enemy fire. Some iterations should be performed in MOPP 4.

**STANDARDS**

The platoon creates and marks lanes through the minefield to maintain the momentum of the tactical operation. The platoon creates the lanes within 10 minutes if the obstacle is covered by direct fire and/or observed indirect enemy fire. The time required to perform this task will be increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** The platoon leader advises the breaching force leader on the location, size, and number of lanes to be created.

- a. Determines the lane location based on terrain, cover and concealment for the breaching force, time, equipment available for the breach, and the maneuver scheme.
- b. Determines the lane size based on the time allowed for the unit and the equipment that must pass through the lanes. The minimum desired widths are 1 meter for a 1-foot assault lane (dismounted troops) and 4 meters for an initial lane to pass vehicles/equipment conducting the attack.
- c. Determines the number of lanes based on the size of the unit to pass through the minefield. A minimum of one lane is required for a maneuver company and a minimum of two lanes for a TF.

**Step 2.** The platoon leader, in coordination with the breaching-force leader, selects the means for reducing the minefield, according to the commander's priorities. Uses—

- Explosive line charges. The M58 minefield depth is less than 80 meters. The MICLIC is normally employed in pairs, unless the limits of the minefield (for example, front edge) are well known and the MICLIC clears a lane 8 by 100 meters.
- Manual means with and without explosives. Destroys mines with hand-emplaced explosives.
- Mechanical reduction techniques (if available). Creates lane with a mine plow or a main battle tank (MBT) mine plow.

As a last resort, uses the CEV or the ACE to create a lane by the skimming technique.

**Step 3.** The platoon creates the required lanes using the selected reduction technique.

- a. Creates a lane within 10 minutes if the obstacle is covered by direct and/or observed indirect fire. No time standard is established if the obstacle is not covered by fire or if the platoon is conducting stealth breaching and is not detected by the enemy.
- b. Creates a lane using an explosive line charge.
  - Employs line charges in pairs, unless the minefield's limits are well known, since most enemy minefields will be deep enough to counter the length of the line charge.
  - Positions the line charge to allow sufficient standoff to compensate for the length of the inert cable to ensure that the line charge covers the suspected forward edge of the minefield.
  - Positions the second line charge allowing for a 10- to 20-meter overlap. Aligns it with the first line charge.
- c. Creates a lane manually by using explosives (surface-laid minefield).
  - Places 1-pound hand-emplaced charges directly next to the mines. Connects individual charges into a ring main or line main and simultaneously detonates.
  - Uses grapnels to clear trip wires (if detected or suspected) or marks them clearly so personnel placing explosives do not activate them.
- d. Creates a lane, manually, with explosives (buried minefield). (This method is not recommended for minefields covered by direct fire.)
- e. Detects the mines by the visual method, probing, or electronic detectors. Marks mines and destroys in place using explosives. If personnel encounter trip wires, they are cleared with grapnel hooks.
- f. Creates a lane manually without explosives. (This method is not recommended for minefields covered by direct fire.)
  - Uses a grapnel to remove mines/trip wires (for surface-laid minefields). Requires all personnel to take cover or lie in a prone position at least 50 meters from the mine. Throws the grapnel or, if removing a mine, attaches a rope, wire, or grapnel to the mine. Pulls the rope or wire from the covered position. Waits 30 seconds before leaving cover to guard against possible time-delay fuses.
  - Does not use this technique for creating a lane in a buried minefield.
- g. Creates a lane using a fabricated or MBT mine plow for surface-laid and buried minefields. Employs the plow a minimum of 20 meters forward of the suspected or known forward edge of the minefield. Continues using the mine plow at least 20 meters beyond the far edge of the minefield.
- h. Creates a lane using the skimming technique (surface-laid minefields only).
  - Uses engineer equipment such as earthmoving blades of the CEV or the ACE to create vehicle lanes.

- Uses the skimming techniques as a last resort due to probable loss of valuable engineer assets.
  - Pushes the top 16 centimeters of soil. Does not let the buildup go over or under the blade. Alternates strikes to the left and right sides of the desired lane. (This is a dangerous and time-consuming method.)
- i. Uses special procedures when chemical mines are known or suspected to be present.
- Ensures that all personnel operating within the downwind area have implemented MOPP 4 procedures.
  - Equips breaching teams with a chemical-agent detector kit or automatic chemical alarm. Ensures that each team has trained and proficient operators.
  - Ensures that the teams do not detonate chemical mines in place.

**Step 4.** The platoon marks (as a minimum) the safe lane's entrance, exit, and left handrail.

- a. Marks the lanes temporarily (upon completing the breach) with materials outlined in the unit's SOP and FM 90-13-1, Appendix E.
- b. Improves the marking by using the standard minefield marking set #2 or the M133 HEMMS as soon as the tactical situation permits.
- c. Marks the right side of the lanes to prevent vehicles and personnel from straying into the minefield (if time and assets are available).

**Step 5.** The platoon provides guides for follow-on forces or performs obstacle handover procedures to ensure that the forces find and quickly negotiate the lanes.

- a. The platoon leader designates a traffic-control team to remain behind to assure safe transfer of the obstacle site.
- b. If the platoon detects obstacles early, the follow-on force provides a guide detachment.
- c. The platoon leader reports the obstacle handover according to the unit's SOP as soon as the tactical situation permits. Minimum information includes losing- and gaining-unit designations, date and time of handover, obstacle location, and obstacle type.
- d. The platoon leader ensures that the obstacle handover occurs as soon as the gaining unit is in position to provide guides. The gaining unit assumes all responsibility for obstacle maintenance.

**Step 6.** The platoon leader records and reports the lanes' locations to higher headquarters.

## EVALUATION PREPARATION

Setup: The engineer platoon is directed to reduce a minefield. The maneuver-force commander designates support, breach, and assault forces. The minefield has been located and reconnoitered. The mines are surface laid and/

or buried. AHDs may have been used. The minefield is 120 meters deep, surface laid, and covered by direct fire and/or observed indirect enemy fire.

Brief soldiers: The platoon will create and mark lanes through the minefield to maintain the momentum of the tactical operation. The platoon will create the lanes within 10 minutes if the obstacle is covered by direct fire and/or observed indirect enemy fire.

## **EVALUATION GUIDE**

Score the soldiers GO if all steps are properly completed. Score the soldiers NO-GO if any step is not properly completed. If the soldiers do not properly complete any step, the trainer must show them how to correct the mistake(s). The soldiers are expected to review the task steps and performance measures and to practice the task until they perform it correctly.

## **REFERENCES**

Required: None

Related: None

Supporting individual tasks:

- 01-1920.00-0012—Supervise Hasty Breach of a Minefield
- 051-192-0011—Lay or Recover Mines in a Cluster
- 051-192-0006—Locate Individual Booby Traps and Mines
- 051-192-1082—Fire the MICLIC
- 051-192-1083—Secure an Undeployed MICLIC
- 051-192-3010—Direct a Squad Minefield Breach
- 051-192-3050—Direct a Mine Sweeping Team
- 051-193-0001—Detonate Explosives With Nonelectric Firing Systems
- 051-193-0002—Detonate Explosives With Electric Firing Systems
- 051-193-0003—Assemble a Detonating-Cord Ring Main With Branch Lines
- 051-193-0005—Neutralize Booby Traps and Mines With Explosives
- 051-194-0003—Execute a Complex Obstacle Breach, an Action, a Task, or a Mission



**TASK NO. 051-192-3076: DIRECT A MINEFIELD SITING PARTY****CONDITIONS**

You are given squad personnel, a sketch of a proposed minefield, TOE equipment, wooden stakes, nails, and engineer tape. Some iterations should be performed in MOPP 4.

**STANDARDS**

You will direct a minefield siting party so that—

- Stakes will be driven into the ground, leaving 6 inches of the stake above the ground at boundaries, end points, and turning points of all mine rows, safety lanes, and traffic paths.
- The mine rows will be at least 15 meters apart.
- Turning point angles will not exceed 45 degrees from the previous row (from the last azimuth taken).
- Short rows off the IOE will only be located on the enemy's side at irregular angles.

The time required to perform this task is increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** Obtain the minefield sketch from the OIC. The sketch includes—

- The location of the starting points for each row (and IOE, if applicable).

**NOTE: The minefield can be laid from right to left or left to right, facing the enemy.**

- The location and number of safety and traffic lanes.

**Step 2.** Determine the locations of the starting, turning, and ending points for rows, the IOE (if applicable), safe lanes, and traffic lanes/paths.

**Step 3.** Install the boundary.

**NOTE: You must use either metal or wooden stakes embedded with a nail so that they can be found by electronic detectors.**

- a. Walk to the starting point of the closest row to the friendly side and drive a stake into the ground, leaving 6 inches of the stake above the ground at that point.
- b. Walk to the starting point of the second row and drive a stake at that point.
- c. Continue this procedure until you reach the IOE.

**Step 4.** Install the IOE baseline turning points.

**NOTE: Extend the IOE short rows only toward the enemy's side and at irregular angles. The rows should channel the enemy to the center of the minefield.**

- If the minefield is to have an IOE row, the siting and recording parties proceed across the IOE and establishes I1, I1E, I2, I2E, and so on until they reach the end.
- Each row must be done in sequence of each other from the number one until the highest number is reached.

**Step 5.** Site the rows.

- a. Proceed down the right (or left) boundary and emplace start-row marker A1.
- b. Proceed from A1 to A2, then place intermediate markers as required.
- c. Emplace the end row marker after reaching the A2 marker, and repeat the procedure from B1 to B2, C1 to C2, until all required control measures are emplaced.
- d. Establish landmark 2 and the left (or right) rear fence location.
- e. Ensure that mine dump sites are near the minefield.

**Step 6.** Inspect the sited minefield.

## **EVALUATION PREPARATION**

Setup: Provide the squad leader with a sketch of the minefield and the other items listed in the conditions.

Brief soldier: Tell the squad leader to direct the soldiers in the siting of the minefield and in which direction the minefield is to be laid. All siting requirements must be met.

## **EVALUATION GUIDE**

Score the soldier GO if all steps are properly completed. Score the soldier NO-GO if any step is not properly completed. If the soldier does not properly complete any step, the trainer must show the soldier how to correct the mistake(s). The soldier is expected to review the task steps and performance measures and to practice the task until he performs it correctly.

## **REFERENCES**

Required:

- FM 5-34
- FM 20-32

Related: None

**TASK NO. 051-192-3079: DIRECT A MINEFIELD RECORDING PARTY****CONDITIONS**

You are given a sketching set, a lensatic compass, DA Form 1355, a map, a metric tape, two soldiers, and an installed minefield. Some iterations should be performed in MOPP 4.

**STANDARDS**

You will ensure that all compass readings are in degrees and all measurements are in meters. The DA Form 1355 will be legible and accurately completed. For a scatterable minefield, you will ensure that a Scatterable Minefield Report and Record is accurately completed according to FM 20-32. The time required to perform this task will be increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** Obtain the necessary data from the siting, marking, and laying parties.

- a. Obtain the types of stakes used as boundaries and the layout of the minefield from the siting party's NCOIC.
- b. Obtain the location of a boundary fence or markers, marking signs, and safety lanes from the marking party's NCOIC.
- c. Obtain the strip and IOE feeder reports of the laying party from the NCOIC.

**Step 2.** Direct the party to establish landmarks and install intermediate markers if necessary.

**NOTE: The squad/platoon leader must have a minimum of two landmarks to record a minefield. The landmarks should be clearly defined, easily distinguished, permanent objects.**

- a. Take measurements and azimuth readings from the landmarks to the rear boundary stake.
- b. Install intermediate markers (every 75 meters) between landmarks and the rear boundary stake when the landmark is more than 200 meters from the minefield and the strip entrance stake cannot be seen from the landmark.

**Step 3.** Direct the recording party to take measurements and azimuth readings of the following:

- The first landmark to the right (or left) of the rear boundary stake.
- Intermediate markers, if needed.
- The right (or left) boundary stake toward the enemy.
- IOE segments and IOE strips.
- Each strip centerline, starting from the one nearest the enemy side.
- The remaining boundary from the IOE to the second landmark.

**Step 4.** Prepare a minefield sketch on DA Form 1355.

**NOTE: Record forward azimuths only, and make all measurements in meters (1 pace = 0.75 meters).**

- a. Sketch the basic pattern of the minefield to scale.
- b. Sketch the safety lane.
- c. Use arrows to indicate the direction in which the azimuths are plotted.
- d. Mark the sketch with accurate measurements and azimuth readings for all sections of the minefield, including the safety lanes.
- e. Sketch the boundary fence and important landmarks, such as roads or rivers, to illustrate their general location.

**Step 5.** Record all information on DA Form 1355.

**Step 6.** Record an enemy minefield.

- a. Use DA Form 1355 to record enemy minefields.
- b. Show the identity of the unit preparing DA Form 1355.
- c. Mark "ENEMY MINEFIELD" at the top of the form.
- d. Describe the markings placed by the reporting unit and include a sketch or overlay showing the location and any other information.
- e. Send the completed DA Form 1355 to the next higher command.

**Step 7.** Report and record scatterable minefields.

- Scatterable minefields do not need to be recorded in detail as required when emplacing conventional mines.
  - The locations of individual mines are unknown; individual mines cannot be plotted as are permanent mines.
  - The aim point/corner points and the type of mine emplaced are basic information that must remain on file for future reference and use.
- FM 20 32 shows relatively simple reporting and recording procedures that will be used for SCATMINEs.
  - Scatterable minefield reports are applicable for all delivery systems and can be sent in a voice, digital, or hard-copy mode.
  - Some systems—such as artillery, Gator, and MOPMS—are point oriented with the safety zone calculated from one or more aim points.
- Any unit emplacing SCATMINEs will immediately prepare and forward a Scatterable Minefield Report and Record to their headquarters.

**EVALUATION PREPARATION**

Setup: Provide the squad/platoon leader with the items listed in the conditions.

Brief soldier: Tell the soldier to direct the recording party to perform the mission. Not all records need to be performed during the same session.

**EVALUATION GUIDE**

Score the soldier GO if all steps are properly completed. Score the soldier NO-GO if any step is not properly completed. If the soldier does not properly complete any step, the trainer must show the soldier how to correct the mistake(s). The soldier is expected to review the task steps and performance measures and to practice the task until he performs it correctly.

**REFERENCES**

Required:

- DA Form 1355
- FM 20-32
- FM 5-34
- STANAG 2036

Related: None

**TASK NO. 051-192-3078: DIRECT A MINEFIELD LAYING PARTY****CONDITIONS**

You are a platoon leader given AT mines, AP mines (in Korea only, except the M18A1), entrenching tools, squad personnel, sandbags, and a proposed minefield that has been sited and marked. Some iterations should be performed in MOPP 4.

**STANDARDS**

You will direct a minefield laying party, so that—

- The total number of mines in any one cluster have only one AT mine (except in a blocking-effect minefield).
- The minimum distance between rows of AT mines is 8 meters (Korea only: 15 meters with AP mines). However, the mines will be no more than 6 meters apart.
- The angle at any given turning point will not exceed 45 degrees from the direction of the previous row.
- All mines will be armed, buried, and camouflaged. All safety clips/pins will be buried 30 centimeters to the rear of the end of the strip marker on the right boundary. A strip feeder report will be accurately prepared.

If the mission requires that mines be surface laid, the mines will not be camouflaged. The time required to perform this task is increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** A platoon uses three vehicles to emplace a row minefield. Each vehicle is assigned a row. A separate party can be detailed to install the IOE.

- The vehicle moves to the starting marker for its assigned row and prepares to lay.
- Soldier 1 ties the rope to the end of the lowered ramp or tow pindle.
- Soldier 2 ties the partially filled sandbag on the other end of the rope. The rope equals the correct spacing between mines.

**Step 2.** The spacing between mines or clusters can vary from 4 to 10 meters, but must remain constant within the row. For a standard row minefield, the normal spacing between clusters is 6 meters.

- a. Record the information on DA Form 1355.
- b. Omit clusters within lanes or gaps, in areas less than 2 meters from boundaries or lanes, and in areas where the terrain (trees and rocks) prohibits emplacement.
- c. Space mines or clusters no closer than 15 meters from the perimeter fence.
- d. Omit a mine or cluster if the distance between them and any turning point is less than the spacing for that row. After the turning point, start laying the mine clusters at the same spacing for that row.

**Step 3.** The platoon leader directs row A to start laying.

- a. The squad leader (soldier 3) positions the team members.
- b. Soldier 1 is at the rear of the compartment passing mines to soldier 2; soldier 2 sits on the edge of the vehicle; and soldier 4 walks behind the vehicle.
- c. The squad leader tells the squad to start laying. The squad leader then supervises mine arming and placing.

**Step 4.** The vehicle moves in a straight line toward the row end point at a low speed (2 to 3 miles per hour[mph]).

- a. Soldier 1 fuses and passes a mine to soldier 2.
- b. Soldier 2 places the mines on the ground when the sandbag (used for spacing) is even with the previously laid mine.
- c. The squad leader walks behind the vehicle, records all mines issued, and supervises mine laying.
- d. Soldier 4 arms the mines. After the mine row is armed and camouflaged, he buries pins, clips, and shipping plugs 30 centimeters to the rear of each start-row marker.

**Step 5.** Row B will start when row A is a safe distance from the start point (30 meters).

**NOTE: Do not close the safe distance between rows. Always remain at 30 meters or more.**

- a. Row C will start when row B is a safe distance from the start point (30 meters). Continue until all of the required rows have been started and completed.
- b. When each row is finished, the vehicle will turn left (or right) down the boundary to their next assigned row and wait for that row to finish.

**NOTES:**

**1. All vehicles will exit the minefield together.**

**2. The above steps are repeated until the end of the row is reached.**

**Step 6.** The dig team follows the laying team (if the platoon is burying the mines).

- a. The NCOIC selects the mine to be buried by each soldier and supervises the operation.
- b. Soldiers dig in the mines, but leave them exposed until arming is complete.
- c. The dig team moves along the friendly's side of the row to the next unburied mine and repeats the process.

**Step 7.** The squad leader allocates a vehicle, if possible, to help remove spoil from the site.

- a. The marking party completes the boundary fence.

b. The marking party removes the extra equipment when the fence is complete.

**Step 8.** The OIC will complete DA Form 1355.

### **EVALUATION PREPARATION**

Setup: Provide the platoon leader with the items listed in the conditions.

Brief soldier: Tell the platoon leader to direct the soldiers in the laying of the minefield and in which direction the minefield is to be laid. Explain that all laying requirements must be met.

### **EVALUATION GUIDE**

Score the soldier GO if all steps are properly completed. Score the soldier NO-GO if any step is not properly completed. If the soldier does not properly complete any step, the trainer must show the soldier how to correct the mistake(s). The soldier is expected to review the task steps and performance measures and to practice the task until he performs it correctly.

### **REFERENCES**

Required:

- FM 20-32
- DA Form 1355

Related: None



**TASK NO. 5-3-70017: INSTALL/REMOVE A ROW MINEFIELD****CONDITIONS**

You have been given a combat-engineer platoon and its equipment, FM 20-32, and—

- A mission to install a row minefield. You are also given a blank DA Form 1355 and an accurate listing of logistical requirements.
- A mission to remove a row minefield. You are also given the appropriate completed DA Form 1355.

Some iterations should be performed in MOPP 4.

**STANDARDS**

The noncommissioned officer (NCO) will—

- Plan the installation, organize the platoon, and supervise the party leaders according to FMs 5-34 and 20-32 and STANAG 2036 to accomplish the mission.
- Analyze the completed DA Form 1355, plan the removal, organize the platoon, and supervise the party leaders according to FMs 5-34 and 20-32 and STANAG 2036 to accomplish the mission.

The time required to perform this task will be increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** Supervise the installation of a row minefield.

- a. Plan the installation with the OIC.
  - Do a map study.
  - Reconnoiter the site.
  - Determine the location of each mine row and all landmarks for reference purposes.
  - Determine the location of the minefield-marking fence, mine dumps (150 meters apart in the rear of the field), and approaches.
  - Arrange for the mines and materials to be moved to the site.
  - Plan and coordinate jobsite security.
- b. Organize the platoon for installation.
- c. Explain the installation plan to the party leaders using sketches, on-site directions, and/or OPORDs.
- d. Provide the siting party with a minefield sketch that includes the location of the starting points for the IOE baseline and each row and the location and number of safety lanes and traffic tapes.
- e. Provide the marking party with—
  - The location of the rear starting point.

- The trace of boundary fences.
  - The use of any existing fences, if permissible.
  - Information on whether the front boundary of the enemy's side of the minefield is to be marked.
  - The number, width, and location of safe lanes.
  - The type of illumination to use.
- f. Provide the laying party with the—
- Cluster composition of each row.
  - Type of mines to be used.
  - Number of AHDs in each row.
  - State of readiness.
- g. Supervise the party leaders in the installation of the row minefield.
- h. Monitor installation procedures and ensure that the minefield meets the mission requirements.
- i. Ensure that DA Form 1355 is accurately completed.

**Step 2.** Supervise the removal of a row minefield.

- a. Plan the removal operation.
- Analyze the completed DA Form 1355 to locate landmarks, reference points, and minefield layout.
  - Orient DA Form 1355 to the map and ground, then locate the landmarks on the ground.
  - Determine the location of mine-collection dumps and usable approaches to the minefield.
  - Plan and coordinate jobsite security.
- b. Organize the platoon for removal. Ensure that—
- The party organization is similar to the installation party's.
  - The siting and mine-removal parties use electronic detectors and probes.
  - The fencing party uses tools to recover the wire and remove pickets.
- c. Explain the removal plan to the party leaders using sketches, on-site directions, and/or OPORDs.
- d. Remove a row minefield according to the following suggested plan:
- The recording party will interpret DA Form 1355 and—
    - Provide a minefield sketch containing all necessary information for the siting party.
    - Provide strip feeder reports for the mine-removal parties.

- Correlate the number of mines and devices removed from the field with the number of mines and devices recorded on DA Form 1355.
- The siting party will use the minefield sketch to locate and mark boundary stakes and boundaries, rows, and IOE baseline and short rows.

**NOTE: The siting party should always be preceded by electronic detectors and/or probers.**

- The mine-removal parties will use the strip feeder reports and electronic detectors and/or probers. They will also locate all clusters and mines, disarm and remove them, then turn them into the mine dump.
  - The fencing party will partially remove the boundary fence while other parties are working. Once all mines are disarmed, the fencing party may remove the entire fence.
- e. Supervise the party leaders in the removal of the minefield, ensuring that all safety precautions are taken.
- f. Ensure that all mines are recovered or neutralized.

## **EVALUATION PREPARATION**

Setup: Provide the NCO with the items listed in the conditions. (Installation and removal may be performed during different training sessions.)

Brief soldier: Issue an OPORD that requires the NCO to supervise the installation/removal of a standard pattern minefield. Then tell the NCO to complete the mission.

## **EVALUATION GUIDE**

Score the soldier GO if all steps are properly completed. Score the soldier NO-GO if any step is not properly completed. If the soldier does not properly complete any step, the trainer must show the soldier how to correct the mistake(s). The soldier is expected to review the task steps and performance measures and to practice the task until he performs it correctly.

## **REFERENCES**

Required:

- DA Form 1355
- FM 20-32
- FM 5-34
- STANAG 2036

Related: None

**TASK NO. 051-192-3077: SUPERVISE MINEFIELD CLEARING OPERATIONS****CONDITIONS**

You have been given a combat-engineer platoon and its equipment, explosives, and site security at a location near an enemy's or a friendly's minefield for which records are unavailable. Some iterations should be performed in MOPP 4.

**STANDARDS**

You will supervise clearing parties (mine-sweeping teams) so all mines and similar devices in the minefield are neutralized or removed without injury to personnel or damage to equipment. The time required to perform this task will be increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** Perform tactical and Battlefield-Operating-System (BOS) planning procedures according to FM 20-32.

- a. Plan the removal operation.
- b. Perform a ground reconnaissance.
- c. Establish and supervise the marking of minefield boundaries (if the field is not marked).
- d. Task-organize the platoon for clean-up operations (see FM 20-32).
- e. Establish control points at the minefield's rear.
- f. Designate a mine-dump location where friendly mines are to be recovered.
- g. Coordinate with the maneuver-force security team.
- h. Assign mine-sweeping team starting points and areas to be cleared. (The mine-sweeping teams are normally in echelon formation.)

**NOTE: The areas should be no larger than 40 meters wide and 100 meters long.**

- i. Define actions to be taken by mine-sweeping teams as mines are encountered.
  - Enemy mines may be neutralized as they are located, or several mines may be located and then all neutralized simultaneously.
  - Friendly mines that are to be recovered should be pulled up by rope and/or grapnel. If they do not detonate, they may then be disarmed, defused, moved to the mine dump, and prepared for reuse.

**Step 2.** Submit reports as required.

- Spot reports are a tactical commander's most common source of minefield intelligence.
- Information is transmitted to higher headquarters on an Enemy Minefield Report.

---

**NOTE: Report format is not as important as speed and accuracy.**

**Step 3.** Ensure safety practices are observed.

### **EVALUATION PREPARATION**

Setup: Give the NCO the materials and equipment listed in the conditions.

Brief soldier: Tell the NCO to supervise the clearing parties so all mines and similar devices in the minefield are neutralized or removed without injury to friendly personnel.

### **EVALUATION GUIDE**

Score the soldier GO if all steps are properly completed. Score the soldier NO-GO if any step is not properly completed. If the soldier does not properly complete any step, the trainer must show the soldier how to correct the mistake(s). The soldier is expected to review the task steps and performance measures and to practice the task until he performs it correctly.

### **REFERENCES**

Required: FM 20-32

Related: None

**TASK NO. 5-3-70119: EMPLACE A ROW MINEFIELD****CONDITIONS**

The platoon is emplacing a minefield in support of a maneuver unit. The maneuver commander has determined the minefield's location, type, and composition. Mines and AHDs are available. The maneuver commander will provide security. Some iterations should be performed in MOPP 4.

**STANDARDS**

The platoon emplaces a tactical minefield (tied to existing or reinforced obstacles) to block, fix, turn, or disrupt the enemy. Locations are accurate to within 10 meters. Camouflaged mines are not detectable from 15 meters. The time required to perform this task is increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** The platoon leader conducts troop-leading procedures.

**Step 2.** The platoon leader issues a FRAGO to the platoon (including the task, observation post [OP], and times).

**Step 3.** The platoon leader conducts a reconnaissance of the minefield location and coordinates with the maneuver force on the exact location.

- Ensures that the maneuver force covers the minefield by fire.
- Ensures that the final location is tied to existing or reinforced obstacles.
- Determines the approximate locations for mine rows, landmarks, fences, mine dumps, and approaches.
- Selects movement routes.
- Establishes local security.

**Step 4.** The platoon leader calculates man-hours and logistical requirements (if standard-row minefield designs are not used) and arranges for mines to be drawn. Calculates the—

- Number of mines.
- Number of rows (depending on the effect).
- Number of AHDs.
- Number of man-hours to install the minefield.
- Amount of fencing and marking material.
- Number of trips to transport mines.

**Step 5.** The platoon leader reports (by secure means) the intention to lay mines to higher headquarters. The report includes the minefield number, the number and type of mines, the location, the type of minefield, whether the mines are surface laid or buried, whether AHDs are used, where lanes and/or gaps are located, and the proposed start and completion times.

**Step 6.** The PSG organizes the platoon to emplace the minefield.

- Siting party—one NCO and two enlisted members (EMs).
- Laying party (three parties)— one NCO and four EMs.
- Recording party—one NCO and two EMs.
- Marking party—one NCO and two EMs.
- Mine-dump party—PSG and two EMs.

**NOTE: Personnel breakdown depends on the number of personnel available at the time of the mission.**

**Step 7.** The squad leaders assemble all equipment and material to emplace the minefield.

- Equipment and materials include a map, lensatic compass, minefield record forms, stakes or pickets, sledgehammers, engineer tape on reels, nails, barbed wire on reels, marking signs, lane signs, wire cutters, gauntlets, metric tape, picks, shovels, and sandbags.

**NOTE: The quantity of equipment and material required varies depending on the minefield's size and the number of personnel working.**

- For night operations, equipment includes a HEMMS and chemical lights to mark the lanes and end points of rows.

**NOTE: The platoon must assume that they are being observed by the enemy and maintain noise and light discipline.**

**Step 8.** The platoon leader reports that the unit has initiated emplacement to higher headquarters. The report includes the time, location, and target number.

**Step 9.** The platoon establishes a mine dump on the minefield's friendly side.

- a. Selects a reasonably level site with adequate access for vehicles.
- b. Elects whether to keep the mines in trailers (tailgate method of resupply).
- c. Spaces the mine dumps 150 meters apart.

**Step 10.** The platoon emplaces the minefield.

- a. The platoon emplaces the minefield within plus 10 percent of the time calculated.
  - The platoon leader identifies the minefield intent, (turn, block, fix, or disrupt) from the obstacle overlay.
  - The platoon leader designates landmarks, the minefield's dimensions, and the location of the minefield fence.
  - The platoon leader and the siting party site the minefield. The rows must have at least 8 meters between them.
  - The marking party emplaces the fence once the minefield is sited.
  - The PSG establishes a mine dump.

- The mine-dump party loads a vehicle with mines from the dump. Depending on the mines used, mines may be fused, but not armed.
- The laying party determines mine spacing. The driver follows the NCO or row markers.

**NOTE: A 6-meter-long rope with a weight (sandbag) on the end towed by the laying vehicle may be used. This space will vary depending on METT-T.**

- The mines are handed to a layer, and carefully laid from the vehicle. The mines are not buried.
- The arming party arms the mines and recovers the row markers.

**NOTE: If a blocking or a turning minefield effect is required, place another three rows of minefield at least 100 meters behind the first. If a blocking minefield effect is required, bury the base mines and add a buried IOE row and AHDs.**

- The platoon leader completes DA Form 1355 and forwards it according to the unit's SOP.
- The platoon emplaces the minefield within plus 10 percent of the time calculated in step 4, above.

**Step 11.** The platoon leader sends a report of completion, usually an oral report, to the authorizing commander.

## EVALUATION PREPARATION

**Setup:** The platoon is emplacing a minefield in support of a maneuver unit. The minefield's location, type, and composition have been determined by the maneuver commander. Mines and AHDs are available. The maneuver commander provides security.

**Brief soldiers:** The platoon will emplace a tactical minefield (tied to existing or reinforced obstacles) to block, fix, turn, or disrupt the enemy. Locations will be accurate to within 10 meters. Camouflaged mines will not be detectable from 15 meters.

## EVALUATION GUIDE

Score the soldiers GO if all steps are properly completed. Score the soldiers NO-GO if any step is not properly completed. If the soldiers do not properly complete any step, the trainer must show them how to correct the mistake(s). The soldiers are expected to review the task steps and performance measures and to practice the task until they perform it correctly.

## REFERENCES

Required:

- FM 20-32
- DA Form 1355



Related:

Supporting individual tasks:

- 01-1920.00-0013—Supervise Installation of Minefields
- 01-1920.00-0019—Prepare/Process Minefield Recording Forms
- 01-1920.00-0021—Plan Installation of Conventional Minefields
- 051-192-0011—Lay or Recover Mine Clusters
- 051-192-0012—Install Mines in Row Minefields
- 051-192-3029—Direct a Minefield Siting Party
- 051-192-3030—Direct a Minefield Laying Party
- 051-192-3031—Direct a Minefield Recording Party

**TASK NO. 051-192-4053: SUPERVISE MINEFIELD BREACHING OPERATIONS****CONDITIONS**

You are given a combat-engineer platoon and its equipment, explosives, and a mission/tactical situation requiring a minefield breach or a route sweep. Some iterations should be performed in MOPP 4.

**STANDARDS**

You are a platoon leader assigned to supervise a platoon in a minefield breach.

- For a platoon minefield-breach mission, direct squad and/or team leaders to take appropriate actions to perform reconnaissance; suppress enemy fires; obscure the breach site; secure the breach site; and reduce the obstacle by conducting the breach proofing and marking the breached lane and assisting in the attack, as required. This will be done so as to maintain momentum and establish a safe path through the minefield.
- For a route sweep, assign squad and/or team leaders to provide security and perform as mine-sweeping teams when required to sweep and clear a route of mines. The time required to perform this task is increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** Coordinate directly or indirectly through squad leaders with the supported unit for security, suppressive fires, and smoke screens.

**Step 2.** Issue a platoon OPORD that includes actions to be performed before, during, and after the breach.

**Step 3.** Assign tasks to squad/team leaders as required, to—

- Assist the supported unit.
- Conduct required reconnaissance to locate possible breach sites and to determine the limits of the minefield.
- Conduct the minefield breach using available assets.
- Proof and mark the breached lane.

**NOTE: Use markings according to the unit's SOP and FM 90-13-1.**

- Direct/guide friendly forces safely forward.

**NOTE: For light forces only: Breaching elements are normally located with the lead elements of maneuver units. Usually an engineer squad instead of an entire platoon will be required to perform in-stride breaches. In such cases, the PSG should, if possible, supervise the most critical breach site.**

**CAUTION**

Before neutralizing mines, ensure that all friendly personnel are a safe distance away.

---

**NOTE: The progression of the breach will normally begin with sweep teams in columns breaching a footpath first, although it may begin with a sweep team in echelon. Mines may be detected, marked, and cleared immediately or a group of mines may be detected, marked and cleared simultaneously.**

### **EVALUATION PREPARATION**

Setup: Provide the NCO with the personnel, equipment, explosives, a simulated minefield, and a mission to perform a minefield breach or a route sweep. Not all situations must be evaluated during the same training sessions.

Brief soldier: Tell the NCO to perform a minefield breach or a route sweep.

### **EVALUATION GUIDE**

Score the soldier GO if all steps are properly completed. Score the soldier NO-GO if any step is not properly completed. If the soldier does not properly complete any step, the trainer must show the soldier how to correct the mistake(s). The soldier is expected to review the task steps and performance measures and to practice the task until he performs it correctly.

### **REFERENCES**

Required:

- FM 20-32
- FM 5-100
- FM 90-13-1

Related: None

**TASK NO. 5-4-70301: CONSTRUCT WIRE ENTANGLEMENTS****CONDITIONS**

The maneuver commander orders the construction of wire entanglements to enhance the terrain in support of the defensive scheme. The squad/platoon has wire obstacle materials available. Some iterations should be performed in MOPP 4.

**STANDARDS**

The obstacles will block, fix, turn, or disrupt the enemy and force it to change its scheme of maneuver according to the maneuver commander's intent. The time required to perform this task will be increased when conducting it in MOPP 4.

**TASK STEPS AND PERFORMANCE MEASURES**

**Step 1.** The squad/platoon leader prepares to construct a wire entanglement.

- a. Reconnoiters the site to consider needed security, potential action on contact, and the accessibility of materials.
- b. Organizes the work party.

**Step 2.** The squad/platoon leader sites the obstacle between existing or reinforcing obstacles to prevent bypass. The obstacle is covered by direct or indirect fire, out of grenade range (40 to 100 meters) from friendly positions, and irregular in shape. It denies cover to breaching enemy forces.

**Step 3.** The squad/platoon constructs triple-standard concertina.

- a. Works from enemy to friendly side.
- b. Spaces pickets at 3.8-meter (5-pace) intervals (staggered rear row).

**NOTE: 1 pace = 0.75 meters.**

- c. Secures the bottom rolls with horizontal wire.
- d. Anchors the end pickets 1.5 meters (2 paces) from the end.
- e. Secures the top roll with wire at 3.8-meter (5-pace) intervals.
- f. Completes within the time standard (one squad hour per 100 meters in daylight; two squad hours per 100 meters during darkness).

**Step 4.** The squad/platoon constructs a knife rest.

- a. Prepares a knife rest 3 to 5 meters in length.
- b. Secures the knife rest to the ground 3 to 5 meters between cross members, a minimum of 1 meter in height, and tightly lashed together).
- c. Completes within the time standard (one squad hour per knife rest for daytime; two squad hours per knife rest during darkness).

**Step 5.** The squad/platoon constructs a double-apron 4-2 pace.

- a. Lays the fence centerline.

- b. Spaces long pickets at 3-meter (4-pace) intervals.
- c. Spaces anchor pickets at 1.5 meters (2 paces) each way from the centerline and midway between long pickets.
- d. Installs all 12 wires working from the enemy's side to the friendly's.
- e. Ties the wire (as a minimum at the beginning and end of each roll).
- f. Completes within the time standard (three squad hours per 100 meters in daytime; four and one-half squad hours per 100 meters during darkness).

**Step 6.** The squad/platoon constructs a concertina roadblock.

- a. Spaces pickets at 3.8 meter (5-pace) intervals.
- b. Places concertina wire over long pickets.
- c. Anchors horizontal wires to anchor stakes 1.5 meters (2 paces) from each end of the concertina.
- d. Ensures the obstacle is no less than 10 meters deep.
- e. Completes within the time standard (for every entanglement 15 meters wide and 10 meters deep, allows one squad hour during daytime and two squad hours during darkness).

**Step 7.** The squad/platoon leader submits intermediate status and completion reports to higher headquarters.

## EVALUATION PREPARATION

**Setup:** The maneuver commander orders the construction of wire entanglements to enhance the terrain in support of the defensive scheme. The squad/platoon has wire obstacle materials available.

**Brief soldier:** The squad/platoon will construct obstacles that will block, fix, turn, or disrupt the enemy and force him to change his scheme of maneuver according to the maneuver commander's intent.

## EVALUATION GUIDE

Score the soldier GO if all steps are properly completed. Score the soldier NO-GO if any step is not properly completed. If the soldier does not properly complete any step, the trainer must show the soldier how to correct the mistake(s). The soldier is expected to review the task steps and performance measures and to practice the task until he performs it correctly.

## REFERENCES

Required: None

Related: None

Supporting individual tasks:

- 051-193-3055—Prepare Obstacle Folder
- 051-194-0001—Direct Construction of Wire Entanglements
- 051-194-0002—Plan Installation of Wire Entanglements
- 051-195-1004—Install Pickets, Barbed Wire, and Concertina